

WHAT IS CLAIMED IS:

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1. A communication device connectable to an IP network, comprising:

10 a congestion monitor unit monitoring whether the communication device is congested; and  
a congestion information creating unit  
creating congestion information concerning a congested state of the communication device when the congestion monitor unit detects the congested state thereof, the congestion information being sent to  
15 other devices connected to the IP network.

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2. The communication device as claimed in claim 1, further comprising:

a routing table storing information used for routing an input packet; and  
an updating unit updating the routing  
25 table upon receiving congestion information from another device.

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3. The communication device as claimed in claim 1, wherein said congestion monitor unit detects a situation in which an input queue of the communication device overflows with packets so that  
35 packets are discarded.

4. The communication device as claimed in claim 1, wherein said congestion monitor unit detects a situation in which packets are stored in an input queue of the communication device over a  
5 predetermined queue length.

10 5. The communication device as claimed in claim 1, wherein the congestion information created by said congestion information creating unit is sent to other communication devices adjacent to the communication device.

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6. The communication device as claimed in  
20 claim 1, wherein the congestion information created by said congestion information creating unit is sent to other communication devices located within a given network range.

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7. The communication device as claimed in claim 1, further comprising a unit for relaying  
30 congestion information received from another network to a route via which packets can be transported.

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8. The communication device as claimed in claim 1, further comprising a unit for determining

whether a route that can avoid congestion for an input packet is available.

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9. The communication device as claimed in claim 1, further comprising a unit sending an input packet to an original route if congestion  
10 information is received from another communication device and there is a congested communication device in an alternative route that can avoid congestion related to said congestion information received.

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10. The communication device as claimed in claim 1, further comprising a unit discarding an  
20 input packet if congestion information is received from another communication device and there is a congested communication device in an alternative route that can avoid congestion related to said congestion information received.

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11. The communication device as claimed  
30 in claim 1, wherein said congestion monitor unit monitors a frequency of occurrence of congested state.

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12. The communication device as claimed

in claim 1, further comprising a unit notifying  
other communication devices of a frequency of  
occurrence of congested state monitored by said  
congestion monitor unit and sending congestion  
5 information received from another communication  
device to a route having a smallest frequency of  
occurrence of congested state based on the  
congestion information received.

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13. The communication device as claimed  
in claim 1, further comprising a unit sending  
15 information indicative of restoration from the  
congested state to the other communication networks.

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14. The communication device as claimed  
in claim 1, wherein said congestion monitor unit  
monitors one of an input interface and an output  
interface of said communication device.

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15. A communication control method  
30 comprising the steps of:  
monitoring whether the communication  
device is congested;  
creating congestion information concerning  
a congested state of the communication device when  
35 the congested state thereof is detected, the  
congestion information being sent to other devices  
connected to the IP network; and

defining an accounting system based on a packet discard ratio determined based on a congestion avoiding control.

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16. A communication control method comprising the steps of:  
10 monitoring whether the communication device is congested; and  
creating congestion information concerning a congested state of the communication device when the congested state thereof is detected, the  
15 congestion information being sent to other devices connected to the IP network.

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17. The communication control method as claimed in claim 16, further comprising a step of:  
updating a routing table storing information used for routing an input packet upon  
25 receiving congestion information from another device.

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18. A system comprising:  
a plurality of communication devices,  
each of the plurality of communication devices comprising:  
a congestion monitor unit monitoring  
35 whether the communication device is congested; and  
a congestion information creating unit creating congestion information concerning a

congested state of the communication device when the congestion monitor unit detects the congested state thereof, the congestion information being sent to other devices connected to the IP network.